Visiting Scientist Examines Seismic Data

As a researcher with the National Research Institute of Astronomy and Geophysics in Cairo, Ahmed Hosny Ali Moursi is investigating the crustal structure of Egypt so as to better understand and assess hazards that can occur with earthquakes.

“If we can add to our knowledge of the crust and upper mantle, we will be able to better understand the occurrence of earthquakes and determine potential impacts to people,” said Ahmed Hosny, a visiting scientist with AfricaArray.

At Penn State, USA for June and July (2011), Ahmed Hosny is using the receiver function technique to analyze seismic data from large earthquakes. This involves modeling seismic waves originating from the crust-mantle boundary and the velocities at which waves propagate through the crust, said Andy Nyblade, AfricaArray co-director who is working with Ahmed Hosny.

Ahmed explained that “with the Receiver Function method, we can make enhancements to our understanding of crustal velocity model of Egypt which help us to improve our hazard assessments.”

Egypt is frequently rocked by earthquakes and has an extensive network of seismic stations for the study of local and regional source mechanisms of earthquakes, Ahmed said. A strong earthquake west of Cairo in 1992 killed several hundred people and injured thousands in addition to a lot of buildings were damaged.

Ahmed Hosny anticipates increased funding of research in the coming years with Egypt’s new government.

“The new government has said it will support scientific research, help scientists in the country and bring back some of those who left,” said Ahmed who indicated hundreds of scientists left the country during Hosny Mubarak’s three decades in power.

“These are exciting times, Ahmed said—we prepare ourselves; do our best to substitute what we lost and we are looking forward to building our country from the beginning.”